

ABSTRACT

The composite structure of the present invention comprises an elongate core material of a sintered diamond material comprising 80% by volume or more diamond particles of a mean particle size not larger than $3.5 \mu\text{m}$ that are bound by an iron group metal; and a shell layer of a sintered alloy comprising at least one kind of hard particles selected from among carbide, nitride and carbonitride of at least one metal element selected from the group of 4a, 5a and 6a group metals of the Periodic Table and diamond particles having a mean particle size not larger than $5 \mu\text{m}$ that are bound by an iron group metal, wherein content of the diamond particles in the shell layer is from 5 to 45% by volume, thereby improving wear resistance, adhesion resistance and chipping resistance of cutting tool, while maintaining high hardness and high strength.